

CLAIMS

1. A substrate processing method characterized by including: dividing a processing tank into a washing section and a drying section; forming a clearance in a joint between the washing section and the drying section; communicating the clearance with a sink; moving a substrate from the washing section to the drying section in drying the substrate; inserting a porous plate into the lower region where a clearance is formed; and jetting a drying gas against the substrate with the internal pressure of the drying section kept higher than that of the sink and the internal pressure of the washing section kept lower than that of the drying section.

2. The substrate processing method according to claim 1, characterized in that a processing solution supply unit and a processing solution discharge unit are independently provided in the bottom region of said washing section, and

the following processes (a) to (d) are performed in washing the substrate;

(a) a process of supplying a chemical solution from the processing solution supply unit into said processing tank to reserve the chemical solution in the processing tank,

(b) a process of inputting and dipping said substrate in the processing tank to perform chemical-solution processing to the substrate for a predetermined time;

(c) a process of supplying a washing solution from the processing solution supply unit after the chemical-solution processing is finished, and of discharging the chemical solution from the processing tank through the processing solution discharge unit; and

(d) a process of stopping the supply of the washing solution after the chemical solution has been discharged.

3. The substrate processing method according to claim 2, characterized in that a drain mechanism is provided in said processing solution discharge unit, and

in drying the substrate, the processing solution in said washing section is discharged for a short time by operating the drain mechanism at the same time as a porous plate is inserted between said washing section and said drying section.

4. The substrate processing method according to claim 1, characterized in that said porous plate is a punched plate in which a plurality of small holes having a predetermined diameter are punched.

5. A substrate processing device which includes:

a support means for supporting a plurality of substrates to be processed at equal pitches in parallel and vertical orientation;

a washing processing tank which accommodates an assembly of substrates supported by the support means; and

a lid with which the upper opening of the washing processing tank is covered, the lid also functioning as a drying processing tank,

the substrate processing device characterized in that the lid includes a container having a size in which the assembly of substrates can be accommodated, the top surface of the container being closed and a lower region of the container being opened,

a plurality of jet nozzles are arranged in a matrix shape at substantially equal intervals in the top surface of the container while respective jet-nozzle holes are orientated toward the assembly of substrates, and

when the upper opening of the washing processing tank is covered with the lid, a clearance communicated with a sink is formed between the washing processing tank and the lid, and the porous plate is inserted into the

lower region of the clearance.

6. The substrate processing device according to claim 5, characterized in that said washing processing tank includes:

a processing solution discharge unit and a processing solution supply unit which are independently provided in the bottom region of the washing processing tank;

processing solution supply system piping which is connected to the processing solution supply unit to supply the processing solution to the processing tank;

a chemical solution supply source which supplies the chemical solution to the processing solution supply system piping;

washing solution supply means for supplying the washing solution to the processing tank through the processing solution supply system piping, the washing solution supply means for washing the substrate by causing the washing solution to overflow from the upper region of the processing tank; and

discharge piping which is connected to the processing solution discharge unit to introduce the washing solution, discharged from the processing tank, to the outside of the processing tank.

7. The substrate processing device according to claims 5 or 6, characterized in that a drain mechanism is provided in said processing solution discharge unit, and

in drying said assembly of substrates, the drain mechanism is operated at the same time as when said porous plate is inserted between said washing processing tank and said lid.

8. The substrate processing device according to claim 5, characterized in that said plurality of jet nozzles are provided in the top surface of said container along the outer circumference of said assembly of

substrates such that distances between the outer circumference and respective nozzle holes become substantially equal to one another.

9. The substrate processing device according to claim 5, characterized in that said porous plate includes a punched plate with a plurality of holes having predetermined diameters.